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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/755,745	01/12/2004	Jasper Wong	D/A3605	9585

7590 12/20/2005

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EXAMINER
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MARTINEZ, CARLOS A

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/755,745

Applicant(s)

WONG ET AL.

Examiner

Carlos A. Martinez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/12/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 01/12/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of claims 1-16 in the reply filed on November 16, 2005 is acknowledged. The traversal is on the ground(s) that the invention of group 2 (claim 17) is not outside the scope of the submitted application since the claims define the scope of the application. Further, with regards to group 1 (claims 1-16) and group 3 (claims 18-21), traversal is made on the ground(s) that a thorough search in any one of the claimed groups would encompass art relevant to the claimed subject matter of the other two groups.

Upon further examination and consideration, the Office withdraws the requirement for restriction for the invention of group 2 (claim 17) and an action on the claim will be given; However, with regards to group 3 (claims 18-21), the argument with traverse is not found persuasive because it does not address the issue that the product as claimed can be made by a materially different process. While a search of the prior art for one group may overlap with that of another group, they are not co-extensive of each other and thus would represent undue burden on Office resources.

The requirement is still deemed proper for group 3 and is therefore made FINAL for group 3.

This application contains claims 18-21 drawn to an invention nonelected with traverse in Paper No. 20051116. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: element 125 (refer to Fig. 11), Fig. 14A, element 446 (refer to Fig. 14C), element 841 (refer to Fig. 18), and element 958B (refer to Fig. 20). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 242 (pg. 12, line 7 of par. 0047), 956 (pg. 24, line 3 of par. 0072), 1148 (pg. 25, line 13 and 16 of par. 0074). It is suggested, out of consistency and to avoid confusion, that 24 (pg. 8, line 19 of par. 0038) be changed to 24A-D and 124 (pg. 27, line 2 of par. 0079) be changed to 124A-D. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include

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all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The disclosure is objected to because of the following spelling informalities: "form" (pg. 2, line 1) and "lat ral" (pg. 21, line 1).

Appropriate correction is required.

### ***Claim Objections***

4. Claim 6 objected to because of the following spelling informalities: "solid in feed" (pg. 29). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford (US5861903) in view of Jones (US2003/0202077 A1) and Arai (US6339484 B1).

- Crawford discloses all the features of the instantly claimed invention: solid ink feed system for a phase change printer (refer to Fig. 1 and Fig. 2) with a longitudinal feed channel (refer to element 25A-D of Fig. 4 and col. 5, line 45-47).
- Though Crawford, also, teaches a friction reducing material in the longitudinal feed channels (refer to element 28) for contact with the ink sticks (refer to column 4, lines 40-43). Crawford fails to teach a longitudinal guide rail in the feed channel and a non-marking material on at least a portion of the surface of the longitudinal guide rail as recited in the instant claims.
- Jones teaches a longitudinal guide rail in the feed channel, which acts as a guide for solid ink sticks, without a non-marking/low surface energy material. Note paragraph 0005, lines 6 to 12 in Jones.
- It would have been obvious to one having skill in the art at the time the invention was made to combine/modify the device of Crawford to include a longitudinal guide rail, along with a friction reducing material for contact with the ink sticks, in the longitudinal feed channel as taught by Jones.
- Arai teaches a friction reducing material that is a non-marking material (refer to column 11, lines 14 – 43), which is used, in a guiding system (refer to column 6, lines 22 – 29).
- It would have been obvious to one having skill in the art at the time the invention was made to modify the longitudinal feed channel of Crawford, as modified by Jones, with a friction reducing material that is a non-marking material which is used in a guiding

system as taught by Arai, for the purpose of providing a smooth and non-adhering guiding means for solid ink sticks.

Further, with respect to claim 2, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, with a non-marking material that has a surface energy of less than approximately 30 dynes/cm such as FEP or PTFE (which applicant recognizes as having a surface energy less than 30 dynes/cm), as further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing a surface energy that would make for a non-marking surface against solid ink sticks.

Further, with respect to claim 3, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, with a non-marking material from the group consisting of tetrafluoroethylene fluorocarbon polymers and fluorinated ethylene-propylene resins, as further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing a surface energy that would make for a non-marking surface against solid ink sticks.

Further, with respect to claim 4, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, with a surface formed of the non-marking material comprising a coating of a non-marking material, as further taught by Arai (refer to column 12, lines 41 – 46), for the purpose of providing a desired layering of non-marking material.

Further, with respect to claim 5, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claim 4, with a surface formed of a non-marking material that comprises a film tape of polytetrafluoroethylene, as further taught by Arai (refer to column 12, lines 29 – 31), for the purpose of providing a smooth and non-marking surface through a readily available film tape.

Further, with respect to claim 6, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claims 4 and 5 above, with a film tape that has a compressible backing, as further taught by Arai (refer to column 12, lines 18 – 31), for the purpose of providing a smooth and non-marking surface – that is also yielding to the movement of the solid ink stick – through a readily available film tape.

Further, with respect to claim 7, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claims 4 to 6 above, with a compressible backing that comprises an adhesive, as further taught by Arai (refer to column 12, lines 18 – 31), for the purpose of providing the ability to easily secure a smooth and non-marking material to a surface through a readily available film tape.

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Further, with respect to claim 8, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, with a non-marking material whose surface is smooth, as further taught by Arai (refer to column 4, lines 10 and 11; and column 11, lines 14 – 35), for the purpose of providing easy movement of the solid ink sticks along the guide rail.

Further, with respect to claim 9, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claim 8 above, with a non-marking material whose smooth surface is deformable, as further taught by Arai (refer to element 38 and column 12, lines 55 – 67), for the purpose of providing a yielding surface to easily move the solid ink stick on.

7. Claims 10 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford (US5861903) in view of Jones (US2003/0202077 A1) and Arai (US6339484 B1).

- Crawford discloses all the features of the instantly claimed invention: solid ink feed system for a phase change printer (refer to Fig.1 and Fig. 2) with a longitudinal feed channel (refer to element 25A-D of Fig. 4 and col. 5, line 45-47).
- Though Crawford, also, teaches a friction reducing material in the longitudinal feed channels (refer to element 28) for contact with the ink sticks (refer to column 4, lines 40-43). Crawford fails to teach a first longitudinal feed channel guide rail, a non-marking material formed on the surface of the first longitudinal feed channel guide rail, and an ink stick having a guide element formed in it – “wherein the shape of the ink stick guide

element and the shape of the feed channel guide rail substantially complement one another so that when the ink stick is placed in the solid ink feed system, the ink stick guide element fits with the longitudinal guide rail to form a load-bearing support contact between the feed channel guide rail and the ink stick guide element” – as recited in the instant claims.

- Jones teaches an ink stick (refer to element 30, Fig. 4) having a guide element formed in it (refer to element 66, Fig. 4) – “wherein the shape of the ink stick guide element and the shape of the feed channel guide rail (refer to element 40, Fig. 4) substantially complement one another so that when the ink stick is placed in the solid ink feed system, the ink stick guide element fits with the longitudinal guide rail to form a load-bearing support contact between the feed channel guide rail and the ink stick guide element”. Jones also teaches a longitudinal guide rail in the feed channel, which acts as a guide for solid ink sticks, without a non-marking/low surface energy material. Note paragraph 0005, lines 6 to 12 in Jones.
- It would have been obvious to one having skill in the art at the time the invention was made to combine/modify the device of Crawford to include a longitudinal guide rail, along with a friction reducing material for contact with the ink sticks, in the longitudinal feed channel as taught by Jones.
- Arai teaches a friction reducing material that is a non-marking material (refer to column 11, lines 14 – 43), which is used, in a guiding system (refer to column 6, lines 22 – 29).
- It would have been obvious to one having skill in the art at the time the invention was made to modify the longitudinal feed channel of Crawford, as modified by Jones, with a

friction reducing material that is a non-marking material which is used in a guiding system as taught by Arai, for the purpose of providing a smooth and non-adhering guiding means for solid ink sticks.

Further, with respect to claim 11, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, wherein the surface of the first longitudinal feed channel guide rail is smooth, as further taught by Arai (refer to column 4, lines 10 and 11; and column 11, lines 14 – 35), for the purpose of providing easy movement of the solid ink sticks along the guide rail.

Further, with respect to claim 12, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claim 11 above, wherein the smooth surface of the first longitudinal feed channel is deformable, as further taught by Arai (refer to element 38 and column 12, lines 55 – 67), for the purpose of providing a yielding surface to easily move the solid ink stick on.

Further, with respect to claim 13, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, wherein the surface – such as formed by FEP or PTFE which ink material does not adhere or build up on, as recognized by the applicant – of the first longitudinal feed channel guide rail does not accumulate material from the ink stick, as further taught by Arai (refer to column 11, lines 36 –

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42), for the purpose of providing easy movement of the solid ink sticks along the guide rail without interference from ink accumulation on the surface material.

Further, with respect to claim 14, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, wherein the surface of the first longitudinal feed channel is deformable, as further taught by Arai (refer to element 38 and column 12, lines 55 – 67), for the purpose of providing a yielding surface to easily move the solid ink stick on.

Further, with respect to claim 15, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, wherein the surface of the first longitudinal feed channel guide rail is formed of a material having a low surface energy (such as FEP or PTFE, which applicant recognizes as having a very low surface energy), as further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing a surface energy that would make for a low-friction and smooth surface.

Further, with respect to claim 16, it would have been obvious to one having skill in the art at the time the invention was made to modify the device of Crawford, as modified by Jones, and as applied to claim 15 above, wherein the surface of the first longitudinal feed channel guide rail is formed of a material having a surface energy of less than approximately 30 dynes/cm (such as FEP or PTFE, which applicant recognizes as having a surface energy less than 30 dynes/cm), as

further taught by Arai (refer to column 11, lines 36 – 42), for the purpose of providing a surface energy that would be low enough to not adhere material from the solid ink sticks.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Crawford (US5861903) in view of Arai (US6339484 B1).

- Crawford discloses an ink melt plate (refer to element 29A-D of Fig. 4 and col. 3, line 56 – 60) and an ink feed channel for moving an ink stick from an insertion point to the melt plate (refer to element 25A-D of Fig. 4 and col. 4, line 44 – 58).
- Though Crawford teaches a friction reducing material in the longitudinal feed channels (refer to element 28) for contact with the ink sticks (refer to column 4, lines 40-43). Crawford fails to recite a non-marking material that is formed on a surface of the ink feed channel.
- Arai teaches a friction reducing material that is a non-marking material formed on the surface of the ink feed channel (refer to column 11, lines 14 – 61), which is used for guiding purposes (refer to column 6, lines 22 – 29).
- Therefore, it would have been obvious to one having skill in the art at the time the invention was made to modify the ink feed channel of Crawford, with a friction reducing material that is a non-marking material which is used in a guiding system as taught by Arai, for the purpose of providing a smooth and non-adhering guiding means for solid ink sticks.

9. Applicant has provided evidence in this file showing that the invention was owned by, or subject to an obligation of assignment to, the same entity as US2003/0202077 at the time this

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invention was made, or was subject to a joint research agreement at the time this invention was made. However, reference US2003/0202077 additionally qualifies as prior art under another subsection of 35 U.S.C. 102, and therefore, is not disqualified as prior art under 35 U.S.C. 103(c).

Applicant may overcome the applied art either by a showing under 37 CFR 1.132 that the invention disclosed therein was derived from the invention of this application, and is therefore, not the invention "by another," or by antedating the applied art under 37 CFR 1.131.

#### ***Pertinent Art References***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Appropriate prior art, which is nearest to the subject matter defined in the claims, is listed in the Notice of References Cited. These prior art references, such as US2003/0202069 A1, US2004/0109057 A1, US2002/0082320 A1, and US5429869 are included because they pertain to solid ink feed systems or subject matter/elements pertinent to solid ink feed systems similar to those defined in the claims of the applicant.

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos A. Martinez whose telephone number is (571) 272-8349. The examiner can normally be reached on 8:30 am - 5:00 pm (M-F).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, STEPHEN D. MEIER can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CAM  
12/14/2005

*Hai Pham*  
HAI PHAM  
PRIMARY EXAMINER